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# PERMIT TO CONSTRUCT AND OPERATE (P/C-P/O) -Modification-

COMPANY NAME: Chevron Products Company

MAILING ADDRESS: 324 W. El Segundo Blvd.

El Segundo, CA 90245

EQUIPMENT LOCATION: 324 W. El Segundo Blvd.

El Segundo, CA 90245

**EQUIPMENT DESCRIPTION:** 

# **APPLICATION NO. 501185**

Additions to the equipment description are noted in bold & underlines. Deletions are noted in strikeouts

FAC	CILITY PER	MIT SECTION D	
PROCESS 16			SYSTEM 10
STORAGE TANKS		DOMED EXTER	RNAL FLOATING ROOF TANKS
DESCRIPTION	DEVICE ID NO.	Emissions and Requirements	CONDITIONS
STORAGE TANK, DOMED EXTERNAL FLOATING ROOF, NO. 492, WELDED SHELL, 184,008 BBL; DIAMETER: 150 FT; HEIGHT: 63 FT 7.25 IN, WITH AN AGITATOR, WITH  DOME COVER, GEODESIC  FLOATING ROOF, PONTOON  PRIMARY SEAL, CATEGORY A, METALLIC SHOE  SECONDARY SEAL, CATEGORY B OR BETTER, RIM MOUNTED  GUIDEPOLE, UNSLOTTED SLOTTED, WITH GASKETED SLIDING COVER, POLE SLEEVE, AND POLE WIPER  A/N: 485091 501185	D1389	HAP: (10) [40CFR 63 Subpart CC, #3A, 5-25-2001]	Process: P13.1  System: S1.2, S13.9, S31.15, S31.20 (all existing)  Device: C6.10, H23.10, K67.69 & K171.13 (all existing)



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## - CONDITIONS -

Additions to the permit condition are noted in **bold & underlines**. Revision (device added to existing condition) in **bold** only. Deletions are noted in strikeouts.

#### PROCESS CONDITIONS

#### P13.1

All devices under this process are subject to the applicable requirements of the following rules or regulations:

Contaminant Rule Rule/Subpart

Benzene 40CFR61, SUBPART FF

[40CFR 61 Subpart FF, 12-4-2003]

[Processes subject to this condition: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16]

#### SYSTEM CONDITIONS

#### S1.2

The operator shall limit the number of flaring events due to startups to no more than 2 event(s) in any one calendar year.

[RULE 1703 - PSD Analysis, 10-7-1988; CA PRC CEQA, 11-23-1970]

[Systems subject to this condition : Process 16, System 10; Process 20, System 36]

#### S13.9

All devices under this system are subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
VOC	District Rule	463
VOC	District Rule	1149
VOC	District Rule	1178

For Rule 463 applicability, only subdivision (d) in the March 11, 1994 amendment, or equivalent requirements in the future amendments, shall apply to domed external floating roof tanks. This does not preclude any requirements specified in Rule 1178.

[RULE 1149, 7-14-1995; RULE 1178, 12-21-2001; RULE 463, 3-11-1994; RULE 463, 5-6-2005]

[Systems subject to this condition : Process 16, System 10]

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#### S31.15

The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 378811, 380595, 380596, 380597, 380611, 385371, 385372, 385373, and 385374:

The operator shall provide to the District, no later than 60 days after initial startup, a recalculation of the fugitive emissions based on actual components installed and removed from service. The valves and flanges shall be categorized by size and service. The operator shall submit a listing of all new non-bellows seal valves which shall be categorized by tag no., size, type, operating temperature, operating pressure, body material, application, and reasons why bellows seal valves were not used.

All new valves in VOC service, except those specifically exempted by Rule 1173, shall be bellows seal valves, except as approved by the District, in the following applications: heavy liquid service, control valve, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose safety hazard (e.g., drain valves with valve stems in horizontal position), retrofits/special applications with space limitations, and valves not commercially available.

All new valves and major components in VOC service as defined by Rule 1173, except those specifically exempted by Rule 1173 and those in heavy liquid service as defined in R1173, shall be distinctly identified from other components through their tag numbers (e.g., numbers ending in the letter "N"), and shall be noted in the records.

All new components in VOC service as defined in Rule 1173, except valves and flanges, shall be inspected quarterly using EPA reference Method 21. All new valves and flanges in VOC service, except those specifically exempted by Rule 1173, shall be inspected monthly using EPA Method 21.

If 98.0 percent or greater of the new (non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 500 ppmv for two consecutive months, then the operator may change to a quarterly inspection program with the approval of the District.

The operator shall revert from quarterly to monthly inspection program if less than 98.0 percent of the new(non-bellows seal) valves and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 500 ppmv.

All new components in VOC service with a leak greater than 500 ppmv but less than 1,000 ppmv, as methane, measured above background using EPA Method 21 shall be repaired within 14 days of detection. Components shall be defined as any valve, fitting, pump, compressor, pressure relief valve, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173.

The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District. Records shall be kept and maintained for at

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least two years, and shall be made available to the Executive Officer or his authorized representative upon request.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996]

[Systems subject to this condition: Process 1, System 18; Process 3, System 5; Process 4, System 3, 4; Process 7, System 7; Process 8, System 8; Process 14, System 28; Process 16, System 8, 10]

#### S31.20

The following BACT requirements shall apply to VOC service fugitive components associated with the devices that are covered by application number(s) 466150, 466876, 467544, and 467547:

All sampling connections shall be closed-purge, closed loop, or closed-vent systems.

All new valves in VOC service shall be leakless type, except those specifically exempted by Rule 1173 or approved by the District in the following applications: heavy liquid service, control valves, instrument piping/tubing, applications requiring torsional valve stem motion, applications where valve failure could pose safety hazard (e.g., drain valves with valve stems in horizontal position), retrofits/special applications with space limitations, and valves not commercially available.

For the purpose of this condition, leakless valve shall be defined as any valve equipped with sealed bellows or equivalent approved in writing by the District prior to installation.

All new components in VOC service as defined by Rule 1173, except valves and flanges shall be inspected quarterly using EPA Reference Method 21. All new valves and flanges in VOC service except those specifically exempted by Rule 1173 shall be inspected monthly using EPA Method 21. Components shall be defined as any valve, flange, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, and meter, which are not exempted by Rule 1173

The following leaks shall be repaired within 7 calendar days -- all light liquid/gas/vapor components leaking at a rate of 500 to 10,000 ppm, heavy liquid components leaking at a rate of 100 to 500 ppm and greater than 3 drops/minute, unless otherwise extended as allowed under Rule 1173.

The following leaks shall be repaired within 2 calendar days -- any leak between 10,000 to 25,000 ppm, any atmospheric PRD leaking at a rate of 200 to 25,000 ppm, unless otherwise extended as allowed under Rule 1173.

The following leaks shall be repaired within 1 calendar day -- any leak greater than 25,000 ppm, heavy liquid leak greater than 500 ppm, or light liquid leak greater than 3 drops per minute.

If 98.0 percent or greater of the new valve and the new flange population inspected is found to leak gaseous or liquid volatile organic compounds at a rate less than 500 ppmv for two consecutive months, then



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the operator may revert to a quarterly inspection program with the approval of the Executive Officer. This condition shall not apply to leakless valves.

The operator shall revert from quarterly to monthly inspection program if less than 98.0 percent of the new valves and the new flange population inspected are found to leak gaseous or liquid volatile organic compounds at a rate less than 500 ppmv. This condition shall not apply to leakless valves.

The operator shall keep records of the monthly inspection (quarterly where applicable), subsequent repair, and reinspection, in a manner approved by the District.

The operator shall provide to the District, prior to initial startup, a list of all non-leakless type valves that were installed. The list shall include the tag numbers for the valves and reasons why leakless valves were not used. The operator shall not startup the equipment prior to the Districts approval for the use of all non-leakless valves

The operator shall provide to the District, no later than 90 days after initial startup, a recalculation of the fugitive emissions based on actual components installed and removed from service. The operator shall also submit a complete, as built, piping and instrumentation diagram(s) and copies of requisition data sheets or field inspection surveys for all non-leakless type valves with a listing of tag numbers and reasons why leakless valves were not used.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996]

[Systems subject to this condition : Process 16, System 10; Process 20, System 37]

#### DEVICE CONDITIONS

#### C. Throughput or Operating Parameter Limits

#### C6.10 (Existing)

The operator shall use this equipment in such a manner that the hydrocarbon concentration being monitored, as indicated below, does not exceed 30 percent of the Lower Explosive Limit.

The operator shall use an explosimeter or equivalent device to monitor the hydrocarbon concentration in the vapor space between the floating roof and geodesic dome twice a year at 4 to 8 months interval.

[RULE 1178, 4-7-2006]

[Devices subject to this condition : D1343, D1367, D1382, D1388, D1389, D1406, D1435, D1439, D1460, D1465, D1473]



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#### H. Applicable Rules

H23.10(existing)

This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant Rule Rule/Subpart

VOC 40CFR60, SUBPART K

[40CFR 60 Subpart K, 5-5-1989]

[Devices subject to this condition : D1282, D1283, D1313, D1358, D1361, D1375, D1377, D1386, D1389, D1411, D1416, D1417, D1418, D1420, D1449, D1467]

#### K. Record Keeping/Reporting

#### K67.69

The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

Tank throughput in barrels.

Commodity/product stored and time period of its storage.

Actual vapor pressure, in psia, of each commodity/product stored.

Hydrocarbon concentration measurements done in the vapor space above the floating roof of the tank.

Other records that may be required to comply with the applicable requirements of District Rules 463(d), 1149, 1178, 40CFR60, Subpart K, and 40CFR63, Subpart CC.

[RULE 1149, 5-2-2008; RULE 1178, 4-7-2006; RULE 463, 5-6-2005; 40CFR 60 Subpart K, 5-5-1989; 40CFR 63 Subpart CC, 6-23-2003]

[Devices subject to this condition : D1389]

#### K171.13

The operator shall provide to the District the following items:

Final Drawings and/or specifications of the geodesic dome cover to be installed/constructed shall be submitted to the District within 30 days after its construction.

[RULE 1178, 4-7-2006]

[Devices subject to this condition : D1343, D1347, D1367, D1388, D1389, D1460, D1465, D1473]



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### I. BACKGROUND / GENERAL INFORMATION:

Chevron Products Co. submitted this AN501185 on 08-07-09 for modification of its existing external floating roof tank No. 492 by the replacement of its unslotted guidepole with a slotted guidepole with pole sleeve and the existing gasketed sliding cover and pole wiper. The previous modification to the subject tank was approved under AN485091 (see **Appendix A** for copy of the current permit) for the addition of a geodesic dome cover and providing gasket to the tank's vacuum breaker to comply with Rule 1178 requirements. The other changes included in the last approval were administrative in nature and included correction of the tank height from 64 ft to 63 ft 7.25 in. per strapping chart shown in **Appendix B**, the transfer of the "WELDED SHELL" description from the floating roof to the main tank, and the deletion of the phrase "PER RULE 219(C)(4)" from the secondary seal description for consistency with similar permit description.

The proposed modification to the subject tank would allow the use of an automatic liquid level gauging device. This modification is not expected to increase tank throughput, the kind of materials normally stored in the tank, the number of fugitive components, and also the tank roof fittings count as shown in **Appendix C** the proposed guidepole replacement. The tank location is shown in the plot plan in **Appendix D**.

A permit history of Tank No. 492 is summarized below:

Appl. No.	P/O (Date Issued)	<u>Purpose of the Application</u>
A80502	P65635 (1-6-76)	New Construction. The tank was built in 1974.
C17417	M13429 (3-23-81)	Addition of s secondary seal to comply with Rule 463.
C41653	M44781 (6-28-85)	Replacement of the tank's primary and secondary seals
	· · · · · · · · · · · · · · · · · · ·	to comply with Rule 463.
485091	F99009 (9-12-08)	Modification to construct a dome cover and some admin
	` ,	changes.
501185		This application for guidepole replacement.

Since the previous approved modifications to the subject tank after 1976 were done for regulatory compliance, they did not trigger NSR or NSPS and therefore, no throughput limit or vapor limit was imposed on the tank.

District records do not indicate any outstanding compliance problem with the operation of the subject storage tank.

### **II. EMISSION ESTIMATE:**

In order to show the maximum change in VOC emissions from the subject storage tank as a result of the proposed modification described above, calculations were done under the following parameters: [Note – The subject tank has no throughput and storage vapor pressure limit conditions and the proposed modification is not expected to change these parameters; therefore, emission calculations may be based on the following parameters:

Throughout -800,000 bbls/mon (this is reported to be the max)

Storage vapor pressure – 10.99 psia (Rule 463 limit)



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as shown in **Appendices E** (pre-modification) & **F** (post-modification). The calculations for the post-modification scenario assume the same operating parameters to reflect no change in the method of operation and rating (same throughput rate for same commodity, vapor pressure, etc. as the pre-modification scenario) as proposed by Chevron except the use of a slotted guidepole instead of unslotted guidepole in the post modification-scenario. Results of these calculations are shown below - (see also **Appendix G**):

Commodity	Estimated Total VOC	Net Emission Change,	
	Post-modification**	Pre-modification *	Lbs VOC/Day
Gasoline product	4,228.98	4,357.82	- 128.84 lbs/yr or
(worst case scenario)			-0.35 lb VOC/day

<sup>\*</sup> Pre-modification – domed external floating roof tank with unslotted guidepole

As shown above, the proposed tank modification would not trigger NSR or Rule 1401 review because it would not result in an emission increase or corresponding increase in toxic risk. The emission reduction expected of 0.35 lb VOC/day as shown above would not be accumulated for NSR purposes because no new limit on the tank operating parameters would be imposed.

#### III. EVALUATION:

As stated above, the proposed modification to the subject storage tank by the replacement of the tank guidepole from unslotted to slotted with vapor controls would not result in a net emission increase and therefore, the modification is not subject to the provisions of NSR or new NSPS requirements. On this basis, no new operating limits tied to NSR like throughput and vapor pressure would be imposed.

The subject tank after the proposed modification is expected to continue to comply with the following District Rules and Regulations:

**Rule 212:** No public notice is required because there is no emission increase from the

modification. There is also no increase in toxic health risk and the

equipment is not located within a 1,000-ft. of a school.

**Rule 401:** No visible emission to violate this rule is expected.

**Rule 402:** No nuisance problem is expected.

**Rule 463:** This tank is subject to the requirements of this rule since it has a storage

volume of greater than 19,815 gallons and stores organic liquids, which is any liquid containing VOCs. Domed External Floating Roof Tanks are subject only to the requirements in Rule 463(d). Compliance with the

requirements is expected.

<sup>\*\*</sup> Post-modification – domed external floating roof tank with slotted guidepole

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# **Reg. IX:** Standards of Performance for New Stationary Sources:

40CFR60, Subpart K (Construction, Reconstruction or Modification after 6-1-73 and prior to 5-19-78) 40CFR60, Subpart Ka (Construction, Reconstruction or Modification after 5-18-78 and prior to 7-23-84) 40CFR60, Subpart Kb (Construction, Reconstruction or Modification after 7-23-84)

The subject tank was installed in 1974 and therefore subject to 40CFR60, Subpart K as indicated in the existing Cond. H23.10. Continued compliance with this regulation is expected with the use of double seals and dome cover to minimize further VOC emissions from the subject tank. The tank would meet all the stringent requirements of Rule 463 and Rule 1178 on roof seals and fittings or controls on roof openings. Chevron also has a program on their storage tanks to meet the monitoring/testing, inspection, recordkeeping and reporting requirements of this subpart.

# **40CFR63**, Subpart CC

This Subpart applies to petroleum refining sources and related emission sources that are specified in section 63.640 (c) (5) through (c) (7) [e.g. miscellaneous process vents (except for FCCU, SRU, and CRU vents), storage vessels, wastewater stream, equipment leaks, gasoline loading racks, marine vessel loading, etc.] that are located in a major source and emit or have equipment contacting one or more of the hazardous air pollutants (HAPs) listed in Table 1 of this subpart. This subpart took effect on August 18, 1998 and was last amended on April 25, 2001.

The subject tank was previously identified by the applicant to belong to Grp 1 as described in this subpart. A Group 1 storage vessel is defined as a "storage vessel at an existing source that has a design capacity greater than or equal to 177 cubic meters (46728 gallons) and stored-liquid maximum vapor pressure greater than or equal to 10.4 kilopascals (1.5 psia) and stored-liquid annual average true vapor pressure greater than or equal to 8.3 kilopascals (1.2 psia) and annual average HAP liquid concentration greater than 4 percent by weight total organic HAP."

Since the tank is subject to and would continue to comply with 40 CFR 60, Subpart K, it is then considered complying with this Subpart CC. The tank complies with the control requirements of this subpart with the use of double seals. Chevron has also a comprehensive LDAR program for their storage tanks to meet the monitoring/testing, inspection, repairs, recordkeeping and reporting requirements under this subpart

# **Reg. X:** National Emission Standards for Hazardous Air Pollutants:

The subject tank was previously identified by the applicant as being not subject to this regulation. The proposed modification should not affect this determination.. No waste materials that would require compliance with his regulation would be handled.

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Rule 1149 Compliance with tank cleaning and degassing requirements of this rule is

expected.

Rule 1173 There would be no new fugitive components whose emissions would be

associated with the tank permit unit. The applicant has a maintenance and

inspection program required by this rule for the facility.

Rule 1178 The tank after modification is expected to comply with the applicable

requirements of this rule by the addition of a dome cover per R1178

(d)(2)(A) and its fittings meet the requirements of this rule.

# **Summary of Roof Opening / Fitting Controls and Seals**

Roof Opening / Fitting or	Roof Seal and Opening/Fitting Configuration		Applicable Rule 1178 Citation
Seal Type	No	Type	
Access Hatch	2	Cover: bolted & gasketed	1178(d)(1)(A)(i)
Automatic Gauge Float Well	1	Cover: bolted & gasketed 1178(d)(1)(A)	
Gauge Hatch / Sample Well	2	Weighted mechanical actuation; 1178(d)(1)(A)(ii) Cover: gasketed.	
Roof Legs	67	Adjustable; impervious sock cover 1178(d)(1)(A)(iii	
Vacuum Breaker	2	Weighted mechanical actuation; 1178(d)(1)(A)(v) Gasketed	
Slotted Guidepole Well & Guidepole	1	Gasketed sliding cover with pole wiper and pole sleeve 1178(d)(1)(A)	
		Gasketed cover for slotted guidepole opening.	1178(d)(1)(A)(xi)
Primary Seal	1	Mechanical Shoe	1178(d)(1)(B)(i)
Secondary Seal	1	Rim mounted and shall not be attached to the primary seal.	1178(d)(1)(B)(ii)

**Reg. XIII:** New Source Review

Emission Increase: No emission increase is expected from the modification.

Therefore, no BACT or emission offset is required.

Modeling: There is no VOC dispersion modeling required

under R1303(b)(1), Appendix A.

Sensitive Zone Requirements – Not applicable because no ERC is required for

this application.

Facility Compliance - Not applicable since there is no emission increase from the modification.



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**Rule 1401:** There is no incremental increase in health risk that is expected from the

modification and therefore, will comply with this rule.

**CEQA:** The proposed modification is not a significant project or part of a

significant project requiring a CEQA document.

**Reg. XX:** RECLAIM rules do not apply since the modification does not affect NOx

and SOx emissions from the facility. The facility, however, is covered by

a RECLAIM Permit that would incorporate this change.

**Reg. XXX:** A initial Title V permit has been issued to the facility. The subject

proposed modification is a minor permit revision under Reg. XXX – Title V Permits because it would not result in any emission increase per Rule 3000(12)(A)(vi). No public notice is required but EPA has to be provided with the application and proposed permit revision and also a

copy of the Title V permit within 5 days of its issuance.

#### IV. RECOMMENDATION:

Based on the foregoing evaluation, it is recommended that a Permit to Construct and Operate be issued for the subject storage tank modification because compliance with all applicable Rules and Regulations is most likely, subject to all the conditions on pages 2 to 6.

Emmanuel Ruivivar A.Q. Engr. II

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